

ANALYTICAL REPORT

Job Number: 360-22658-1

Job Description: Slurry Wall/Cap

CHECKED FOR COMPLETENESS
OF PARAMETERS ORDERED BY:
John Finch

For:
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441
Attention: Mr. Steven Morrow

Joseph A. Chimi

Approved for release.
Joe Chimi
Report Production Representative
6/1/09 2:21 PM

Designee for
Becky C Mason
Project Manager II
becky.mason@testamericainc.com
06/01/2009

The test results in this report meet all NELAP requirements for accredited parameters. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full, and with written approval from the laboratory.

TestAmerica Westfield Certifications and Approvals: MADEP MA014, RIDOH57, CTDPH 0494, VT DECWSD, NH DES 2539, NELAP FL E87912 TOX, NELAP NJ MA008 TOX, NELAP NY 10843, NY DOH 10843.

Field sampling is performed under SOPs WE-FLD-001 and WE-FLD-002

TestAmerica Laboratories, Inc.

TestAmerica Westfield Westfield Executive Park, 53 Southampton Road, Westfield, MA 01085

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MADEP MCP Analytical Method Report Certification Form

Laboratory Name: **TestAmerica Westfield** Project #: **360-22658-1**

Project Location: **Slurry Wall/Cap** MADEP RTN¹:

This form provides certifications for the following data set:[list Laboratory Sample ID Number(s)]
360-22658-(1-18)

Sample Matrices:	Groundwater	Soil/Sediment	Drinking Water	Other:
MCP SW-846 Methods Used	8260B()	8151A()	8330()	6010B(x) 7470A/1A() Other()
	8270C()	8081A()	VPH()	6020() 9014M ² /9012()
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	8082()	8021B()	EPH()	7000 S ³ () 7196A()
1 List Release Tracking Number (RTN), if known 2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method 3 S - SW-846 Methods 7000 Series List individual method and analyte.				

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes	No ¹
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes	No ¹
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, " Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes	N/A No ¹
D	VPH and EPH methods only: Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes	N/A No ¹

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all QC performance standards and recommendations for the specified methods achieved?	Yes	No ¹
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes	N/A No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:

Position: Laboratory Director

Printed Name: Steven C. Hartmann

Date: 6/1/09 14:15

The certification form has been electronically signed and approved.

CAM VII A, Rev 3.2

April-04

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

MADEP MA014 NELAP FL E87912 TOX
NY DOH 10843 NELAP NJ MA008 TOX
RI DOH 57 NELAP NY 10843
CT DPH 0494 NH DES 253901-A
VT DECWSD



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Fax:(413)572-3707

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: **TestAmerica Westfield** Project #: **360-22658-1**

Project Location: **Slurry Wall/Cap** MADEP RTN¹:

This form provides certifications for the following data set:[list Laboratory Sample ID Number(s)]
360-22658-(1-18)

Sample Matrices:	Groundwater	Soil/Sediment	Drinking Water	Other:
MCP SW-846 Methods Used	8260B()	8151A()	8330()	6010B() 7470A/1A() Other (<input checked="" type="checkbox"/>)
	8270C()	8081A()	VPH()	6020() 9014M ² /9012()
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	8082()	8021B()	EPH()	7000 S ³ () 7196A()
1 List Release Tracking Number (RTN), if known				
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method				
3 S - SW-846 Methods 7000 Series List individual method and analyte.				

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes <input checked="" type="checkbox"/>	No ¹ <input type="checkbox"/>
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes <input checked="" type="checkbox"/>	No ¹ <input type="checkbox"/>
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, " Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/> No ¹ <input type="checkbox"/>
D	VPH and EPH methods only: Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/> No ¹ <input type="checkbox"/>

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all QC performance standards and recommendations for the specified methods achieved?	Yes <input checked="" type="checkbox"/>	No ¹ <input type="checkbox"/>
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/> No ¹ <input type="checkbox"/>

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:

Position: Laboratory Director

Printed Name: Steven C. Hartmann

Date: 6/1/09 14:15

The certification form has been electronically signed and approved.

CAM VII A, Rev 3.2

April-04

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MADEP MA014 NELAP FL E87912 TOX
 NY DOH 10843 NELAP NJ MA008 TOX
 RI DOH 57 NELAP NY 10843
 CT DPH 0494 NH DES 253901-A
 VT DECWSD



TestAmerica Westfield
 53 Southampton Rd,
 Westfield, MA 01085
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CASE NARRATIVE

Client: Olin Corporation

Project: Slurry Wall/Cap

Report Number: 360-22658-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues as stipulated in the MCP reporting requirements.

In order to facilitate report review, a separate MCP Analytical Method Report Certification Form is included for each method requested.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy "MCP program" reporting limits in some cases if the "adjusted" RL is greater than the applicable MCP standards or criterion to which the concentration is being compared. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes which exceed the calibration range.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

The samples were received on 05/15/2009; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 2.8 and 4.8°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC and MADEP standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

MCP regulatory standard criteria were not specified for this report. Therefore, method reporting limits (RLs) were not assessed against any MCP standards as it may pertain to Question "E" on the Presumptive Certainty Certification Form (MADEP reference: WSC-CAM-AN-093008 - WSC-CAM Analytical Notes).

DISSOLVED METALS

Samples 360-22658-1 through 360-22658-18 were analyzed for dissolved metals in accordance with EPA SW846 Method 6010B. The samples were analyzed on 05/18/2009.

All QA/QC procedures required to meet Presumptive Certainty for the specified analytical method were performed as per section B of the MADEP MCP analytical method report Certification form.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved.

General method information:

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

The following reported methods are not listed in the MADEP Massachusetts Contingency Plan (MCP) Compendium of Analytical Methods (CAM), pursuant to the provisions of 310 CMR 40.0017(2).

ANIONS

Samples 360-22658-1 through 360-22658-18 were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 05/19/2009, 05/20/2009 and 05/22/2009.

All QC performance standards and recommendations for this specific method were achieved.

Samples 360-22658-2(10X), 360-22658-4 through 360-22658-6(10X), 360-22658-10(10X), 360-22658-11(10X), 360-22658-13(10X), 360-22658-15(10X), 360-22658-16(20X), 360-22658-16(50X), 360-22658-17(10X) and 360-22658-18(20X) required dilution prior to analysis. The reporting limits have been adjusted accordingly. Dilutions were due to high target concentration.

AMMONIA

Samples 360-22658-1 through 360-22658-18 were analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 05/28/2009, 05/29/2009 and 06/01/2009.

All QC performance standards and recommendations for this specific method were achieved with the exception of:

Ammonia failed the MS/MSD recovery criteria high for the matrix spike duplicate of sample 360-22658-8MSD and exceeded the MS/MSD rpd limit. The associated LCS recovered within control limits. Refer to the QC report for details.

Samples 360-22658-2(10X), 360-22658-4(10X), 360-22658-5(10X), 360-22658-11(10X), 360-22658-13(10X), 360-22658-14(5X), 360-22658-15(20X), 360-22658-16(20X), 360-22658-17(10X) and 360-22658-18(20X) required dilution prior to analysis. The reporting limits have been adjusted accordingly. Dilutions were due to high concentration.

SPECIFIC CONDUCTANCE (CONDUCTIVITY)

Samples 360-22658-1 through 360-22658-18 were analyzed for Specific Conductance (Conductivity) in accordance with SM 2510B. The samples were analyzed on 05/18/2009.

All QC performance standards and recommendations for this specific method were achieved.

This case narrative is available in Word format upon request.

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation

Job Number: 360-22658-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
360-22658-1 OC-GW-10S					
Sulfate	41		2.0	mg/L	300.0
Chloride	5.2		1.0	mg/L	300.0
Ammonia	1.0		0.10	mg/L	L107-06-1B
Specific Conductance	110		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	3100		100	ug/L	6010B
360-22658-2 OC-GW-26					
Sulfate	160		20	mg/L	300.0
Chloride	180		10	mg/L	300.0
Ammonia	74		1.0	mg/L	L107-06-1B
Specific Conductance	1000		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	2.9	J	100	ug/L	6010B
Chromium	20		5.0	ug/L	6010B
360-22658-3 OC-GW-78S					
Sulfate	38		2.0	mg/L	300.0
Chloride	11		1.0	mg/L	300.0
Ammonia	11		0.10	mg/L	L107-06-1B
Specific Conductance	170		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	7.2	J	100	ug/L	6010B
Chromium	2.4	J	5.0	ug/L	6010B
360-22658-4 OC-GW-25					
Sulfate	120		20	mg/L	300.0
Chloride	37		10	mg/L	300.0
Ammonia	53		1.0	mg/L	L107-06-1B
Specific Conductance	570		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Chromium	3.7	J	5.0	ug/L	6010B

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation

Job Number: 360-22658-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
360-22658-5	OC-PZ-18R				
Sulfate		240	20	mg/L	300.0
Chloride		180	10	mg/L	300.0
Ammonia		62	1.0	mg/L	L107-06-1B
Specific Conductance		1200	1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum		3.6	J	ug/L	6010B
Chromium		18		ug/L	6010B
360-22658-6	OC-GW-39				
Sulfate		500	20	mg/L	300.0
Chloride		19	1.0	mg/L	300.0
Ammonia		0.15	0.10	mg/L	L107-06-1B
Specific Conductance		910	1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum		91	J	ug/L	6010B
360-22658-7	OC-GW-34SR				
Sulfate		7.1	2.0	mg/L	300.0
Chloride		1.1	1.0	mg/L	300.0
Ammonia		0.27	0.10	mg/L	L107-06-1B
Specific Conductance		65	1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Chromium		0.52	J	ug/L	6010B
360-22658-8	OC-GW-34D				
Sulfate		37	2.0	mg/L	300.0
Chloride		14	1.0	mg/L	300.0
Ammonia		15 J	0.10	mg/L	L107-06-1B
Specific Conductance		210	1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum		4.0	J	ug/L	6010B
Chromium		13		ug/L	6010B


 2/28/09

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation

Job Number: 360-22658-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
360-22658-9	OC-GW-34D DUP				
Sulfate	38		2.0	mg/L	300.0
Chloride	15		1.0	mg/L	300.0
Ammonia	14 <i>✓</i>		0.10	mg/L	L107-06-1B
Specific Conductance	210		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	4.7	J	100	ug/L	6010B
Chromium	13		5.0	ug/L	6010B
360-22658-10	OC-GW-55S				
Sulfate	1100		20	mg/L	300.0
Chloride	180		10	mg/L	300.0
Ammonia	15		0.10	mg/L	L107-06-1B
Specific Conductance	2800		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	470		100	ug/L	6010B
Chromium	1.8	J	5.0	ug/L	6010B
360-22658-11	OC-PZ-17RR				
Sulfate	550		20	mg/L	300.0
Chloride	18		1.0	mg/L	300.0
Ammonia	62		1.0	mg/L	L107-06-1B
Specific Conductance	1400		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Chromium	3.2	J	5.0	ug/L	6010B
360-22658-12	OC-GW-CA1				
Sulfate	39		2.0	mg/L	300.0
Chloride	2.1		1.0	mg/L	300.0
Ammonia	0.40		0.10	mg/L	L107-06-1B
Specific Conductance	390		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	6.0	J	100	ug/L	6010B
Chromium	0.92	J	5.0	ug/L	6010B

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation

Job Number: 360-22658-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
360-22658-13	OC-GW-78S				
Sulfate	620		20	mg/L	300.0
Chloride	21		1.0	mg/L	300.0
Ammonia	71		1.0	mg/L	L107-06-1B
Specific Conductance	1400		1.0	umhos/cm	SM 2510B
Dissolved					
Aluminum	3.4	J	100	ug/L	6010B
Chromium	3.5	J	5.0	ug/L	6010B
360-22658-14	OC-GW-24				
Sulfate	68		2.0	mg/L	300.0
Chloride	6.3		1.0	mg/L	300.0
Ammonia	36		0.50	mg/L	L107-06-1B
Specific Conductance	350		1.0	umhos/cm	SM 2510B
Dissolved					
Aluminum	4.0	J	100	ug/L	6010B
360-22658-15	OC-PZ-16RR				
Sulfate	950		20	mg/L	300.0
Chloride	160		10	mg/L	300.0
Ammonia	190		2.0	mg/L	L107-06-1B
Specific Conductance	2600		1.0	umhos/cm	SM 2510B
Dissolved					
Chromium	7.4		5.0	ug/L	6010B
360-22658-16	OC-GW-202D				
Sulfate	2600		100	mg/L	300.0
Chloride	370		20	mg/L	300.0
Ammonia	360		2.0	mg/L	L107-06-1B
Specific Conductance	5000		1.0	umhos/cm	SM 2510B
Dissolved					
Aluminum	18000		100	ug/L	6010B
Chromium	1200		5.0	ug/L	6010B

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation

Job Number: 360-22658-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
360-22658-17 OC-GW-202S					
Sulfate	490		20	mg/L	300.0
Chloride	53		10	mg/L	300.0
Ammonia	120		1.0	mg/L	L107-06-1B
Specific Conductance	1300		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	3.7	J	100	ug/L	6010B
Chromium	4.6	J	5.0	ug/L	6010B
360-22658-18 OC-GW-79S					
Sulfate	1300		40	mg/L	300.0
Chloride	190		20	mg/L	300.0
Ammonia	190		2.0	mg/L	L107-06-1B
Specific Conductance	3300		1.0	umhos/cm	SM 2510B
<i>Dissolved</i>					
Aluminum	18	J	100	ug/L	6010B
Chromium	6.6		5.0	ug/L	6010B

METHOD SUMMARY

Client: Olin Corporation

Job Number: 360-22658-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Metals Sample Filtration, Field	TAL WFD	SW846 6010B	FIELD_FLTRD
Chloride & Sulfate	TAL WFD	40CFR136A 300.0	
Nitrogen Ammonia Distillation, Ammonia	TAL WFD TAL WFD	LACHAT L107-06-1B	Distill/Ammonia
Conductivity, Specific Conductance	TAL WFD	SM SM 2510B	

Lab References:

TAL WFD = TestAmerica Westfield

Method References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

LACHAT = LACHAT

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Olin Corporation

Job Number: 360-22658-1

Method	Analyst	Analyst ID
SW846 6010B	Nasiatka, Ellen M	EMN
40CFR136A 300.0	Lalashius, Andrew L	ALL
LACHAT L107-06-1B	Lalashius, Andrew L	ALL
SM SM 2510B	Emerich, Rich W	RWE

SAMPLE SUMMARY

Client: Olin Corporation

Job Number: 360-22658-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
360-22658-1	OC-GW-10S	Ground Water	05/13/2009 0945	05/15/2009 1615
360-22658-2	OC-GW-26	Ground Water	05/13/2009 0935	05/15/2009 1615
360-22658-3	OC-GW-78S	Ground Water	05/13/2009 1105	05/15/2009 1615
360-22658-4	OC-GW-25	Ground Water	05/13/2009 1150	05/15/2009 1615
360-22658-5	OC-PZ-18R	Ground Water	05/13/2009 1305	05/15/2009 1615
360-22658-6	OC-GW-39	Ground Water	05/13/2009 1305	05/15/2009 1615
360-22658-7	OC-GW-34SR	Ground Water	05/13/2009 1430	05/15/2009 1615
360-22658-8	OC-GW-34D	Ground Water	05/13/2009 1435	05/15/2009 1615
360-22658-8MS	OC-GW-34D MS	Ground Water	05/13/2009 1435	05/15/2009 1615
360-22658-8MSD	OC-GW-34D MSD	Ground Water	05/13/2009 1435	05/15/2009 1615
360-22658-9	OC-GW-34D DUP	Ground Water	05/13/2009 1435	05/15/2009 1615
360-22658-10	OC-GW-55S	Ground Water	05/14/2009 0950	05/15/2009 1615
360-22658-11	OC-PZ-17RR	Ground Water	05/14/2009 1105	05/15/2009 1615
360-22658-12	OC-GW-CA1	Ground Water	05/14/2009 1235	05/15/2009 1615
360-22658-13	OC-GW-78S	Ground Water	05/14/2009 1255	05/15/2009 1615
360-22658-14	OC-GW-24	Ground Water	05/14/2009 1405	05/15/2009 1615
360-22658-15	OC-PZ-16RR	Ground Water	05/14/2009 1430	05/15/2009 1615
360-22658-16	OC-GW-202D	Ground Water	05/15/2009 0920	05/15/2009 1615
360-22658-17	OC-GW-202S	Ground Water	05/15/2009 0905	05/15/2009 1615
360-22658-18	OC-GW-79S	Ground Water	05/15/2009 1035	05/15/2009 1615

SAMPLE RESULTS

Mr. Steven Morrow
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Job Number: 360-22658-1

Client Sample ID: OC-GW-10S
Lab Sample ID: 360-22658-1

Date Sampled: 05/13/2009 0945
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1227	
Aluminum	3100	ug/L	2.2	100	1.0
Chromium	ND	ug/L	0.17	5.0	1.0

Mr. Steven Morrow
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Job Number: 360-22658-1

Client Sample ID: OC-GW-10S
Lab Sample ID: 360-22658-1

Date Sampled: 05/13/2009 0945
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 1832	
Sulfate	41	mg/L	2.0	2.0	1.0
Chloride	5.2	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	05/28/2009 1415	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	1.0	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1111	
Specific Conductance	110	umhos/cm	1.0	1.0	1.0

Mr. Steven Morrow
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Job Number: 360-22658-1

Client Sample ID: OC-GW-26
Lab Sample ID: 360-22658-2

Date Sampled: 05/13/2009 0935
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1236	
Aluminum	2.9	J ug/L	2.2	100	1.0
Chromium	20	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-26
Lab Sample ID: 360-22658-2

Date Sampled: 05/13/2009 0935
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 1917	
Sulfate	160	mg/L	20	20	10
Chloride	180	mg/L	10	10	10
Method: L107-06-1B			Date Analyzed:	05/28/2009 1431	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	74	mg/L	1.0	1.0	10
Method: SM 2510B			Date Analyzed:	05/18/2009 1112	
Specific Conductance	1000	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-78S
Lab Sample ID: 360-22658-3

Date Sampled: 05/13/2009 1105
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1238	
Aluminum	7.2	J ug/L	2.2	100	1.0
Chromium	2.4	J ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-78S
Lab Sample ID: 360-22658-3

Date Sampled: 05/13/2009 1105
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 1932	
Sulfate	38	mg/L	2.0	2.0	1.0
Chloride	11	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	05/28/2009 1419	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	11	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1114	
Specific Conductance	170	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-25
Lab Sample ID: 360-22658-4

Date Sampled: 05/13/2009 1150
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1241	
Aluminum	ND	ug/L	2.2	100	1.0
Chromium	3.7	J ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-25
Lab Sample ID: 360-22658-4

Date Sampled: 05/13/2009 1150
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 2048	
Sulfate	120	mg/L	20	20	10
Chloride	37	mg/L	10	10	10
Method: L107-06-1B			Date Analyzed:	05/28/2009 1432	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	53	mg/L	1.0	1.0	10
Method: SM 2510B			Date Analyzed:	05/18/2009 1115	
Specific Conductance	570	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-PZ-18R
Lab Sample ID: 360-22658-5

Date Sampled: 05/13/2009 1305
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1244	
Aluminum	3.6	J ug/L	2.2	100	1.0
Chromium	18	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-PZ-18R
Lab Sample ID: 360-22658-5

Date Sampled: 05/13/2009 1305
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 2118	
Sulfate	240	mg/L	20	20	10
Chloride	180	mg/L	10	10	10
Method: L107-06-1B			Date Analyzed:	05/28/2009 1433	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	62	mg/L	1.0	1.0	10
Method: SM 2510B			Date Analyzed:	05/18/2009 1117	
Specific Conductance	1200	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-39
Lab Sample ID: 360-22658-6

Date Sampled: 05/13/2009 1305
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1247	
Aluminum	91	J	ug/L	2.2	100
Chromium	ND		ug/L	0.17	5.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-39
Lab Sample ID: 360-22658-6

Date Sampled: 05/13/2009 1305
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	19	Date Analyzed: mg/L	05/19/2009 2133 1.0	1.0	1.0
Method: 300.0 Sulfate	500	Date Analyzed: mg/L	05/19/2009 2148 20	20	10
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	0.15	Date Analyzed: Date Prepared: mg/L	05/28/2009 1422 05/28/2009 1110 0.10	0.10	1.0
Method: SM 2510B Specific Conductance	910	Date Analyzed: umhos/cm	05/18/2009 1118 1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-34SR
Lab Sample ID: 360-22658-7

Date Sampled: 05/13/2009 1430
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1250	
Aluminum	ND	ug/L	2.2	100	1.0
Chromium	0.52	J ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-34SR
Lab Sample ID: 360-22658-7

Date Sampled: 05/13/2009 1430
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 2203	
Sulfate	7.1	mg/L	2.0	2.0	1.0
Chloride	1.1	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	05/28/2009 1423	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	0.27	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1119	
Specific Conductance	65	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-34D
Lab Sample ID: 360-22658-8

Date Sampled: 05/13/2009 1435
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1215	
Aluminum	4.0	J ug/L	2.2	100	1.0
Chromium	13	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-34D
Lab Sample ID: 360-22658-8

Date Sampled: 05/13/2009 1435
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 0004	
Sulfate	37	mg/L	2.0	2.0	1.0
Chloride	14	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	06/01/2009 1204	
Prep Method: Distill/Ammonia			Date Prepared:	06/01/2009 0857	
Ammonia	15 <i>3</i>	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1121	
Specific Conductance	210	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-34D DUP
Lab Sample ID: 360-22658-9

Date Sampled: 05/13/2009 1435
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1253	
Aluminum	4.7	J ug/L	2.2	100	1.0
Chromium	13	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-34D DUP
Lab Sample ID: 360-22658-9

Date Sampled: 05/13/2009 1435
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/19/2009 2233	
Sulfate	38	mg/L	2.0	2.0	1.0
Chloride	15	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	06/01/2009 1204	
Prep Method: Distill/Ammonia			Date Prepared:	06/01/2009 0857	
Ammonia	14 <i>5</i>	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1122	
Specific Conductance	210	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-55S
Lab Sample ID: 360-22658-10

Date Sampled: 05/14/2009 0950
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1256	
Aluminum	470	ug/L	2.2	100	1.0
Chromium	1.8	J	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-55S
Lab Sample ID: 360-22658-10

Date Sampled: 05/14/2009 0950
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 0119	
Sulfate	1100	mg/L	20	20	10
Chloride	180	mg/L	10	10	10
Method: L107-06-1B			Date Analyzed:	05/28/2009 1428	
Prep Method: Distill/Ammonia			Date Prepared:	05/28/2009 1110	
Ammonia	15	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1124	
Specific Conductance	2800	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-PZ-17RR
Lab Sample ID: 360-22658-11

Date Sampled: 05/14/2009 1105
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1258	
Aluminum	ND	ug/L	2.2	100	1.0
Chromium	3.2	J ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-PZ-17RR
Lab Sample ID: 360-22658-11

Date Sampled: 05/14/2009 1105
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	18	Date Analyzed: mg/L	05/20/2009 0134 1.0	1.0	1.0
Method: 300.0 Sulfate	550	Date Analyzed: mg/L	05/20/2009 0150 20	20	10
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	62	Date Analyzed: Date Prepared: mg/L	05/29/2009 1559 05/29/2009 1410 1.0	1.0	10
Method: SM 2510B Specific Conductance	1400	Date Analyzed: umhos/cm	05/18/2009 1125 1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-CA1
Lab Sample ID: 360-22658-12

Date Sampled: 05/14/2009 1235
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1301	
Aluminum	6.0	J ug/L	2.2	100	1.0
Chromium	0.92	J ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-CA1
Lab Sample ID: 360-22658-12

Date Sampled: 05/14/2009 1235
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 0205	
Sulfate	39	mg/L	2.0	2.0	1.0
Chloride	2.1	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	05/29/2009 1550	
Prep Method: Distill/Ammonia			Date Prepared:	05/29/2009 1410	
Ammonia	0.40	mg/L	0.10	0.10	1.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1127	
Specific Conductance	390	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-78S
Lab Sample ID: 360-22658-13

Date Sampled: 05/14/2009 1255
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1310	
Aluminum	3.4	J	ug/L	2.2	100
Chromium	3.5	J	ug/L	0.17	5.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-78S
Lab Sample ID: 360-22658-13

Date Sampled: 05/14/2009 1255
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	21	Date Analyzed: mg/L	05/20/2009 0305 1.0	1.0	1.0
Method: 300.0 Sulfate	620	Date Analyzed: mg/L	05/20/2009 1730 20	20	10
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	71	Date Analyzed: Date Prepared: mg/L	05/29/2009 1600 05/29/2009 1410 1.0	1.0	10
Method: SM 2510B Specific Conductance	1400	Date Analyzed: umhos/cm	05/18/2009 1128 1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-24
Lab Sample ID: 360-22658-14

Date Sampled: 05/14/2009 1405
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1313	
Aluminum	4.0	J ug/L	2.2	100	1.0
Chromium	ND	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-24
Lab Sample ID: 360-22658-14

Date Sampled: 05/14/2009 1405
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 0320	
Sulfate	68	mg/L	2.0	2.0	1.0
Chloride	6.3	mg/L	1.0	1.0	1.0
Method: L107-06-1B			Date Analyzed:	05/29/2009 1601	
Prep Method: Distill/Ammonia			Date Prepared:	05/29/2009 1410	
Ammonia	36	mg/L	0.50	0.50	5.0
Method: SM 2510B			Date Analyzed:	05/18/2009 1130	
Specific Conductance	350	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-PZ-16RR
Lab Sample ID: 360-22658-15

Date Sampled: 05/14/2009 1430
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1316	
Aluminum	ND	ug/L	2.2	100	1.0
Chromium	7.4	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-PZ-16RR
Lab Sample ID: 360-22658-15

Date Sampled: 05/14/2009 1430
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 1629	
Sulfate	950	mg/L	20	20	10
Chloride	160	mg/L	10	10	10
Method: L107-06-1B			Date Analyzed:	05/29/2009 1602	
Prep Method: Distill/Ammonia			Date Prepared:	05/29/2009 1410	
Ammonia	190	mg/L	2.0	2.0	20
Method: SM 2510B			Date Analyzed:	05/18/2009 1131	
Specific Conductance	2600	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-202D
Lab Sample ID: 360-22658-16

Date Sampled: 05/15/2009 0920
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1319	
Aluminum	18000	ug/L	2.2	100	1.0
Chromium	1200	ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-202D
Lab Sample ID: 360-22658-16

Date Sampled: 05/15/2009 0920
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	370	Date Analyzed: mg/L	05/20/2009 1800 20	20	20
Method: 300.0 Sulfate	2600	Date Analyzed: mg/L	05/22/2009 0347 100	100	50
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	360	Date Analyzed: Date Prepared: mg/L	05/29/2009 1603 05/29/2009 1410 2.0	2.0	20
Method: SM 2510B Specific Conductance	5000	Date Analyzed: umhos/cm	05/18/2009 1133 1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-202S
Lab Sample ID: 360-22658-17

Date Sampled: 05/15/2009 0905
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1321	
Aluminum	3.7	J ug/L	2.2	100	1.0
Chromium	4.6	J ug/L	0.17	5.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-202S
Lab Sample ID: 360-22658-17

Date Sampled: 05/15/2009 0905
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 1745	
Sulfate	490	mg/L	20	20	10
Chloride	53	mg/L	10	10	10
Method: L107-06-1B			Date Analyzed:	05/29/2009 1604	
Prep Method: Distill/Ammonia			Date Prepared:	05/29/2009 1410	
Ammonia	120	mg/L	1.0	1.0	10
Method: SM 2510B			Date Analyzed:	05/18/2009 1134	
Specific Conductance	1300	umhos/cm	1.0	1.0	1.0

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Job Number: 360-22658-1

Client Sample ID: OC-GW-79S
Lab Sample ID: 360-22658-18

Date Sampled: 05/15/2009 1035
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:	05/18/2009 1324	
Aluminum	18	J	ug/L	2.2	100
Chromium	6.6		ug/L	0.17	5.0

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3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Job Number: 360-22658-1

Client Sample ID: OC-GW-79S
Lab Sample ID: 360-22658-18

Date Sampled: 05/15/2009 1035
Date Received: 05/15/2009 1615
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0			Date Analyzed:	05/20/2009 1815	
Sulfate	1300	mg/L	40	40	20
Chloride	190	mg/L	20	20	20
Method: L107-06-1B			Date Analyzed:	05/29/2009 1607	
Prep Method: Distill/Ammonia			Date Prepared:	05/29/2009 1410	
Ammonia	190	mg/L	2.0	2.0	20
Method: SM 2510B			Date Analyzed:	05/18/2009 1140	
Specific Conductance	3300	umhos/cm	1.0	1.0	1.0

DATA REPORTING QUALIFIERS

Client: Olin Corporation

Job Number: 360-22658-1

Lab Section	Qualifier	Description
Metals	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry	F	MS or MSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits

QUALITY CONTROL RESULTS

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:360-44554					
LCS 360-44554/1	Lab Control Sample	T	Water	6010B	
LCSD 360-44554/8	Lab Control Sample Duplicate	T	Water	6010B	
MB 360-44554/2	Method Blank	T	Water	6010B	
360-22658-1	OC-GW-10S	D	Water	6010B	
360-22658-2	OC-GW-26	D	Water	6010B	
360-22658-3	OC-GW-78S	D	Water	6010B	
360-22658-4	OC-GW-25	D	Water	6010B	
360-22658-5	OC-PZ-18R	D	Water	6010B	
360-22658-6	OC-GW-39	D	Water	6010B	
360-22658-7	OC-GW-34SR	D	Water	6010B	
360-22658-8	OC-GW-34D	D	Water	6010B	
360-22658-8MS	Matrix Spike	D	Water	6010B	
360-22658-8MSD	Matrix Spike Duplicate	D	Water	6010B	
360-22658-9	OC-GW-34D DUP	D	Water	6010B	
360-22658-10	OC-GW-55S	D	Water	6010B	
360-22658-11	OC-PZ-17RR	D	Water	6010B	
360-22658-12	OC-GW-CA1	D	Water	6010B	
360-22658-13	OC-GW-78S	D	Water	6010B	
360-22658-14	OC-GW-24	D	Water	6010B	
360-22658-15	OC-PZ-16RR	D	Water	6010B	
360-22658-16	OC-GW-202D	D	Water	6010B	
360-22658-17	OC-GW-202S	D	Water	6010B	
360-22658-18	OC-GW-79S	D	Water	6010B	

Report Basis

D = Dissolved

T = Total

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:360-44548					
LCS 360-44548/1	Lab Control Sample	T	Water	SM 2510B	
LCS 360-44548/25	Lab Control Sample	T	Water	SM 2510B	
MB 360-44548/2	Method Blank	T	Water	SM 2510B	
MB 360-44548/24	Method Blank	T	Water	SM 2510B	
360-22658-1	OC-GW-10S	T	Water	SM 2510B	
360-22658-2	OC-GW-26	T	Water	SM 2510B	
360-22658-3	OC-GW-78S	T	Water	SM 2510B	
360-22658-4	OC-GW-25	T	Water	SM 2510B	
360-22658-5	OC-PZ-18R	T	Water	SM 2510B	
360-22658-6	OC-GW-39	T	Water	SM 2510B	
360-22658-7	OC-GW-34SR	T	Water	SM 2510B	
360-22658-8	OC-GW-34D	T	Water	SM 2510B	
360-22658-9	OC-GW-34D DUP	T	Water	SM 2510B	
360-22658-10	OC-GW-55S	T	Water	SM 2510B	
360-22658-11	OC-PZ-17RR	T	Water	SM 2510B	
360-22658-12	OC-GW-CA1	T	Water	SM 2510B	
360-22658-13	OC-GW-78S	T	Water	SM 2510B	
360-22658-14	OC-GW-24	T	Water	SM 2510B	
360-22658-15	OC-PZ-16RR	T	Water	SM 2510B	
360-22658-16	OC-GW-202D	T	Water	SM 2510B	
360-22658-17	OC-GW-202S	T	Water	SM 2510B	
360-22658-18	OC-GW-79S	T	Water	SM 2510B	
360-22658-18DU	Duplicate	T	Water	SM 2510B	
Analysis Batch:360-44617					
LCS 360-44617/2	Lab Control Sample	T	Water	300.0	
MB 360-44617/1	Method Blank	T	Water	300.0	
360-22658-1	OC-GW-10S	T	Water	300.0	
360-22658-2	OC-GW-26	T	Water	300.0	
360-22658-3	OC-GW-78S	T	Water	300.0	
360-22658-4	OC-GW-25	T	Water	300.0	
360-22658-5	OC-PZ-18R	T	Water	300.0	
360-22658-6	OC-GW-39	T	Water	300.0	
360-22658-7	OC-GW-34SR	T	Water	300.0	
360-22658-9	OC-GW-34D DUP	T	Water	300.0	

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:360-44619					
LCS 360-44619/2	Lab Control Sample	T	Water	300.0	
MB 360-44619/1	Method Blank	T	Water	300.0	
360-22658-8	OC-GW-34D	T	Water	300.0	
360-22658-8MS	Matrix Spike	T	Water	300.0	
360-22658-8MSD	Matrix Spike Duplicate	T	Water	300.0	
360-22658-10	OC-GW-55S	T	Water	300.0	
360-22658-11	OC-PZ-17RR	T	Water	300.0	
360-22658-12	OC-GW-CA1	T	Water	300.0	
360-22658-13	OC-GW-78S	T	Water	300.0	
360-22658-14	OC-GW-24	T	Water	300.0	
Prep Batch: 360-44909					
LCS 360-44909/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 360-44909/1-A	Method Blank	T	Water	Distill/Ammonia	
360-22658-1	OC-GW-10S	T	Water	Distill/Ammonia	
360-22658-2	OC-GW-26	T	Water	Distill/Ammonia	
360-22658-3	OC-GW-78S	T	Water	Distill/Ammonia	
360-22658-4	OC-GW-25	T	Water	Distill/Ammonia	
360-22658-5	OC-PZ-18R	T	Water	Distill/Ammonia	
360-22658-6	OC-GW-39	T	Water	Distill/Ammonia	
360-22658-7	OC-GW-34SR	T	Water	Distill/Ammonia	
360-22658-8MSMS	Matrix Spike	T	Water	Distill/Ammonia	
360-22658-8MSDMSD	Matrix Spike Duplicate	T	Water	Distill/Ammonia	
360-22658-10	OC-GW-55S	T	Water	Distill/Ammonia	
Analysis Batch:360-44916					
LCS 360-44909/2-A	Lab Control Sample	T	Water	L107-06-1B	360-44909
MB 360-44909/1-A	Method Blank	T	Water	L107-06-1B	360-44909
360-22658-1	OC-GW-10S	T	Water	L107-06-1B	360-44909
360-22658-2	OC-GW-26	T	Water	L107-06-1B	360-44909
360-22658-3	OC-GW-78S	T	Water	L107-06-1B	360-44909
360-22658-4	OC-GW-25	T	Water	L107-06-1B	360-44909
360-22658-5	OC-PZ-18R	T	Water	L107-06-1B	360-44909
360-22658-6	OC-GW-39	T	Water	L107-06-1B	360-44909
360-22658-7	OC-GW-34SR	T	Water	L107-06-1B	360-44909
360-22658-8MSMS	Matrix Spike	T	Water	L107-06-1B	360-44909
360-22658-8MSDMSD	Matrix Spike Duplicate	T	Water	L107-06-1B	360-44909
360-22658-10	OC-GW-55S	T	Water	L107-06-1B	360-44909

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:360-44926					
LCS 360-44926/2	Lab Control Sample	T	Water	300.0	
MB 360-44926/1	Method Blank	T	Water	300.0	
360-22658-13	OC-GW-78S	T	Water	300.0	
360-22658-15	OC-PZ-16RR	T	Water	300.0	
360-22658-15MS	Matrix Spike	T	Water	300.0	
360-22658-15MSD	Matrix Spike Duplicate	T	Water	300.0	
360-22658-16	OC-GW-202D	T	Water	300.0	
360-22658-17	OC-GW-202S	T	Water	300.0	
360-22658-18	OC-GW-79S	T	Water	300.0	
Analysis Batch:360-44933					
LCS 360-44933/2	Lab Control Sample	T	Water	300.0	
MB 360-44933/1	Method Blank	T	Water	300.0	
360-22658-16	OC-GW-202D	T	Water	300.0	
Prep Batch: 360-44990					
LCS 360-44990/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 360-44990/1-A	Method Blank	T	Water	Distill/Ammonia	
360-22658-11	OC-PZ-17RR	T	Water	Distill/Ammonia	
360-22658-12	OC-GW-CA1	T	Water	Distill/Ammonia	
360-22658-13	OC-GW-78S	T	Water	Distill/Ammonia	
360-22658-14	OC-GW-24	T	Water	Distill/Ammonia	
360-22658-15	OC-PZ-16RR	T	Water	Distill/Ammonia	
360-22658-16	OC-GW-202D	T	Water	Distill/Ammonia	
360-22658-17	OC-GW-202S	T	Water	Distill/Ammonia	
360-22658-18	OC-GW-79S	T	Water	Distill/Ammonia	
Analysis Batch:360-44996					
LCS 360-44990/2-A	Lab Control Sample	T	Water	L107-06-1B	360-44990
MB 360-44990/1-A	Method Blank	T	Water	L107-06-1B	360-44990
360-22658-11	OC-PZ-17RR	T	Water	L107-06-1B	360-44990
360-22658-12	OC-GW-CA1	T	Water	L107-06-1B	360-44990
360-22658-13	OC-GW-78S	T	Water	L107-06-1B	360-44990
360-22658-14	OC-GW-24	T	Water	L107-06-1B	360-44990
360-22658-15	OC-PZ-16RR	T	Water	L107-06-1B	360-44990
360-22658-16	OC-GW-202D	T	Water	L107-06-1B	360-44990
360-22658-17	OC-GW-202S	T	Water	L107-06-1B	360-44990
360-22658-18	OC-GW-79S	T	Water	L107-06-1B	360-44990
Prep Batch: 360-45018					
LCS 360-45018/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 360-45018/1-A	Method Blank	T	Water	Distill/Ammonia	
360-22658-8	OC-GW-34D	T	Water	Distill/Ammonia	
360-22658-9	OC-GW-34D DUP	T	Water	Distill/Ammonia	

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:360-45027					
LCS 360-45018/2-A	Lab Control Sample	T	Water	L107-06-1B	360-45018
MB 360-45018/1-A	Method Blank	T	Water	L107-06-1B	360-45018
360-22658-8	OC-GW-34D	T	Water	L107-06-1B	360-45018
360-22658-9	OC-GW-34D DUP	T	Water	L107-06-1B	360-45018

Report Basis

T = Total

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44554

Method: 6010B

Preparation: N/A

Lab Sample ID: MB 360-44554/2

Analysis Batch: 360-44554

Instrument ID: Varian 720 ES ICP

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: ug/L

Initial Weight/Volume:

Date Analyzed: 05/18/2009 1158

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte

Result

Qual

MDL

RL

Aluminum

ND

2.2

100

Chromium

ND

0.17

5.0

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 360-44554

Method: 6010B

Preparation: N/A

LCS Lab Sample ID: LCS 360-44554/1

Analysis Batch: 360-44554

Instrument ID: Varian 720 ES ICP

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: ug/L

Initial Weight/Volume:

Date Analyzed: 05/18/2009 1155

Final Weight/Volume: 10 mL

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 360-44554/8

Analysis Batch: 360-44554

Instrument ID: Varian 720 ES ICP

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: ug/L

Initial Weight/Volume:

Date Analyzed: 05/18/2009 1230

Final Weight/Volume: 10 mL

Date Prepared: N/A

Analyte

% Rec.

LCS

LCSD

Limit

RPD

RPD Limit

LCS Qual

LCSD Qual

Aluminum

100

94

80 - 120

6

20

Chromium

99

96

80 - 120

3

20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 360-44554

Method: 6010B

Preparation: N/A

MS Lab Sample ID: 360-22658-8 Analysis Batch: 360-44554
Client Matrix: Water Prep Batch: N/A
Dilution: 1.0
Date Analyzed: 05/18/2009 1218
Date Prepared: N/A

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 360-22658-8 Analysis Batch: 360-44554
Client Matrix: Water Prep Batch: N/A
Dilution: 1.0
Date Analyzed: 05/18/2009 1221
Date Prepared: N/A

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Aluminum	97	98	75 - 125	1	20		
Chromium	98	99	75 - 125	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44617

Method: 300.0

Preparation: N/A

Lab Sample ID: MB 360-44617/1

Analysis Batch: 360-44617

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: mg/L

Initial Weight/Volume: 1.0 mL

Date Analyzed: 05/19/2009 1701

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-44617

Method: 300.0

Preparation: N/A

Lab Sample ID: LCS 360-44617/2

Analysis Batch: 360-44617

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: mg/L

Initial Weight/Volume: 1.0 mL

Date Analyzed: 05/19/2009 1716

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	82.7	103	85 - 115	
Chloride	40.0	40.8	102	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44619

Method: 300.0

Preparation: N/A

Lab Sample ID: MB 360-44619/1

Analysis Batch: 360-44619

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: mg/L

Initial Weight/Volume: 1.0 mL

Date Analyzed: 05/19/2009 2334

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-44619

Method: 300.0

Preparation: N/A

Lab Sample ID: LCS 360-44619/2

Analysis Batch: 360-44619

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: mg/L

Initial Weight/Volume: 1.0 mL

Date Analyzed: 05/19/2009 2349

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	83.1	104	85 - 115	
Chloride	40.0	41.0	103	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 360-44619

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 360-22658-8 Analysis Batch: 360-44619
Client Matrix: Water Prep Batch: N/A
Dilution: 10
Date Analyzed: 05/20/2009 0034
Date Prepared: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 360-22658-8 Analysis Batch: 360-44619
Client Matrix: Water Prep Batch: N/A
Dilution: 10
Date Analyzed: 05/20/2009 0049
Date Prepared: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Sulfate	103	102	75 - 125	1	20		
Chloride	106	105	75 - 125	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44926

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 360-44926/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/20/2009 1559
Date Prepared: N/A

Analysis Batch: 360-44926
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-44926

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 360-44926/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/20/2009 1614
Date Prepared: N/A

Analysis Batch: 360-44926
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	82.5	103	85 - 115	
Chloride	40.0	41.1	103	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 360-44926

Method: 300.0

Preparation: N/A

MS Lab Sample ID: 360-22658-15 Analysis Batch: 360-44926
Client Matrix: Water Prep Batch: N/A
Dilution: 20
Date Analyzed: 05/20/2009 1659
Date Prepared: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 360-22658-15 Analysis Batch: 360-44926
Client Matrix: Water Prep Batch: N/A
Dilution: 20
Date Analyzed: 05/20/2009 1715
Date Prepared: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Sulfate	109	108	75 - 125	0	20		
Chloride	107	107	75 - 125	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44933

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 360-44933/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/21/2009 2245
Date Prepared: N/A

Analysis Batch: 360-44933
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-44933

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 360-44933/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/21/2009 2300
Date Prepared: N/A

Analysis Batch: 360-44933
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	82.8	104	85 - 115	
Chloride	40.0	41.2	103	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44909

Lab Sample ID: MB 360-44909/1-A
 Client Matrix: Water
 Dilution: 1.0
 Date Analyzed: 05/28/2009 1408
 Date Prepared: 05/28/2009 1110

Analysis Batch: 360-44916
 Prep Batch: 360-44909
 Units: mg/L

Method: L107-06-1B
Preparation: Distill/Ammonia

Analyte	Result	Qual	RL	RL
Ammonia	ND		0.10	0.10

Lab Control Sample - Batch: 360-44909

Lab Sample ID: LCS 360-44909/2-A
 Client Matrix: Water
 Dilution: 1.0
 Date Analyzed: 05/28/2009 1409
 Date Prepared: 05/28/2009 1110

Analysis Batch: 360-44916
 Prep Batch: 360-44909
 Units: mg/L

Method: L107-06-1B
Preparation: Distill/Ammonia

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	10.0	9.71	97	85 - 115	

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 360-44909

MS Lab Sample ID: 360-22658-8MS
 Client Matrix: Water
 Dilution: 5.0
 Date Analyzed: 05/28/2009 1434
 Date Prepared: 05/28/2009 1110

Analysis Batch: 360-44916
 Prep Batch: 360-44909

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 50 mL

MSD Lab Sample ID: 360-22658-8MSD
 Client Matrix: Water
 Dilution: 5.0
 Date Analyzed: 05/28/2009 1435
 Date Prepared: 05/28/2009 1110

Analysis Batch: 360-44916
 Prep Batch: 360-44909

Instrument ID: No Equipment Assigned
 Lab File ID: N/A
 Initial Weight/Volume: 1.0 mL
 Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	91	160	75 - 125	25	20		F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44990

Lab Sample ID: MB 360-44990/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/29/2009 1544
Date Prepared: 05/29/2009 1410

Analysis Batch: 360-44996
Prep Batch: 360-44990
Units: mg/L

Method: L107-06-1B
Preparation: Distill/Ammonia

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Ammonia	ND		0.10	0.10

Lab Control Sample - Batch: 360-44990

Lab Sample ID: LCS 360-44990/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/29/2009 1545
Date Prepared: 05/29/2009 1410

Analysis Batch: 360-44996
Prep Batch: 360-44990
Units: mg/L

Method: L107-06-1B
Preparation: Distill/Ammonia

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	10.0	10.4	104	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-45018

Lab Sample ID: MB 360-45018/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/01/2009 1108
Date Prepared: 06/01/2009 0857

Analysis Batch: 360-45027
Prep Batch: 360-45018
Units: mg/L

Method: L107-06-1B
Preparation: Distill/Ammonia

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Ammonia	ND		0.10	0.10

Lab Control Sample - Batch: 360-45018

Lab Sample ID: LCS 360-45018/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/01/2009 1109
Date Prepared: 06/01/2009 0857

Analysis Batch: 360-45027
Prep Batch: 360-45018
Units: mg/L

Method: L107-06-1B
Preparation: Distill/Ammonia

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	10.0	9.41	94	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Method Blank - Batch: 360-44548

Method: SM 2510B
Preparation: N/A

Lab Sample ID: MB 360-44548/2

Analysis Batch: 360-44548

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: umhos/cm

Initial Weight/Volume:

Date Analyzed: 05/18/2009 1103

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte	Result	Qual	RL	RL
Specific Conductance	ND		1.0	1.0

Method Blank - Batch: 360-44548

Method: SM 2510B
Preparation: N/A

Lab Sample ID: MB 360-44548/24

Analysis Batch: 360-44548

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Units: umhos/cm

Initial Weight/Volume:

Date Analyzed: 05/18/2009 1137

Final Weight/Volume: 1.0 mL

Date Prepared: N/A

Analyte	Result	Qual	RL	RL
Specific Conductance	ND		1.0	1.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Olin Corporation

Job Number: 360-22658-1

Lab Control Sample - Batch: 360-44548

Method: SM 2510B
Preparation: N/A

Lab Sample ID: LCS 360-44548/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/18/2009 1101
Date Prepared: N/A

Analysis Batch: 360-44548
Prep Batch: N/A
Units: umhos/cm

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Specific Conductance	1410	1420	101	85 - 115	

Lab Control Sample - Batch: 360-44548

Method: SM 2510B
Preparation: N/A

Lab Sample ID: LCS 360-44548/25
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/18/2009 1138
Date Prepared: N/A

Analysis Batch: 360-44548
Prep Batch: N/A
Units: umhos/cm

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Specific Conductance	1410	1390	99	85 - 115	

Duplicate - Batch: 360-44548

Method: SM 2510B
Preparation: N/A

Lab Sample ID: 360-22658-18
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/18/2009 1141
Date Prepared: N/A

Analysis Batch: 360-44548
Prep Batch: N/A
Units: umhos/cm

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Specific Conductance	3300	3320	0	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Method Name	Description	State Accreditation				
		New York (NELAC)	Mass	Conn	Florida (NELAC)	North Carolina
821-R-02-012	Toxicity, Acute (48-Hour)(list upon request)				NP	
SM 4500 CI F	Chlorine, Residual		NP			
SM 9215B	Heterotrophic Plate Count (Pour Plate Method)		P			
SM 9215E	Heterotrophic Plate Count (SimPlate)		P			
SM 9221F	E.Coli (Multiple-Tube Fermentation; EC-MUG)		P			
SM 9222B	Coliforms, Total (Membrane Filter)		P			
SM 9222D	Coliforms, Fecal (Membrane Filter)		P/NP			
SM 9223	Coliforms, Total, and E.Coli (Colilert-P/A)		P			
200.8	Metals (ICP/MS) (list upon request)	NP/P	NP/P	NP/P		
200.7 Rev 4.4	Metals (ICP)(list upon request)	NP/P	NP/P	NP/P		
6010B	Metals (ICP)(list upon request)	NP/SW		NP/SW		
245.1	Mercury (CVAA)	NP/P	NP	NP/P		
7470A	Mercury (CVAA)	NP		NP		
7471A	Mercury (CVAA)	SW		SW		
SM 2340B	Total Hardness (as CaCO ₃) by calculation	NP/P	NP	NP/P		
3005A	Preparation, Total Recoverable or Dissolved Metals	NP/P		NP/P		
3010A	Preparation, Total Metals	NP/P		NP/P		
3020A	Preparation, Total Metals	NP/P/SW		NP/P/SW		
3050B	Preparation, Metals	SW		SW		
504.1	EDB, DBCP and 1,2,3-TCP (GC)		P	P		
608	Organochlorine Pest/PCBs (list upon request)	NP	NP	NP		
625	Semivolatile Org Comp (GC/MS)(list upon request)	NP		NP		
3546	Microwave Extraction	SW				
3510C	Liquid-Liquid Extraction (Separatory Funnel)	NP		NP		
3540C	Soxhlet Extraction					
3550B	Ultrasonic Extraction	SW		SW		
600/4-81-045	Polychlorinated Biphenyls (PCBs) (GC)		NP	NP		
8081A	Organochlorine Pesticides (GC)(list upon request)	NP/SW		NP/SW		
8082A	PCBs by Gas Chromatography(list upon request)	NP/SW		NP/SW		
8270C	Semivolatile Comp.(GC/MS)(list upon request)	NP/SW		NP/SW		
CT ETPH	Conn - Ext. Total petroleum Hydrocarbons (GC)			NP/SW		
MA-EPH	Mass - Extractable Petroleum Hydrocarbons (GC)			NP/SW		NP/SW
524.2	Volatile Org Comp (GC/MS)(list upon request)	P	P	P		
524.2	Trihalomethanes		P	P		
624	Volatile Org Comp (GC/MS)(list upon request)	NP	NP	NP		
5035	Closed System Purge and Trap	SW		SW		
5030B	Purge and Trap	NP		NP		
8260B	Volatile Org Comp. (GC/MS)(list upon request)	NP/SW		NP/SW		
MAVPH	Mass - Volatile Petroleum Hydrocarbons (GC)			NP/SW		NP/SW
180.1	Turbidity, Nephelometric		P	P		
300	Anions, Ion Chromatography	NP/P	NP/P	NP/P		
410.4	COD	NP	NP	NP		
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW		SW		
10-107-06-2	Nitrogen, Total Kjeldahl	NP	NP	NP		
7196A	Chromium, Hexavalent	NP/SW		NP/SW		
9012A	Cyanide, Total and/or Amenable	NP/SW		NP/SW		
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	NP		NP		
9040B	pH	NP		NP		
9045C	pH	SW		SW		
L107041C	Nitrogen, Nitrate	NP	P	NP/P		
L107-06-1B	Nitrogen Ammonia	NP	NP	NP/P		
L204001A CN	Cyanide, Total		NP/P	NP/P		
L210-001A	Phenolics, Total Recoverable	NP	NP	NP		
SM 2320B	Alkalinity	NP/P	NP/P	NP/P		
SM 2510B	Conductivity, Specific Conductance	NP/P	NP/P	NP/P		
SM 2540C	Solids, Total Dissolved (TDS)	NP/P	NP/P	NP/P		
SM 2540D	Solids, Total Suspended (TSS)	NP	NP	NP		
SM 3500 CR D	Chromium, Hexavalent	NP		NP		
SM 4500 H+ B	pH	NP/P	NP/P	NP/P		
SM 4500 NO ₂ B	Nitrogen, Nitrite	NP	P	NP/P		
SM 4500 P E	Phosphorus, Orthophosphate	NP/P	NP	NP/P		
SM 4500 P E	Phosphorus, Total	NP	NP	NP		
SM 4500 S2 D	Sulfide, Total	NP		NP		
SM 5210B	BOD, 5-Day	NP	NP	NP		
SM 5310B	Organic Carbon, Total (TOC)	NP/P	NP	NP/P		

Not all organic compounds are accredited under NELAC

For methods with multiple compounds all compounds may not meet NELAC criteria, listing should be obtained from the laboratory

This listing is subject to change based on the laboratories certification standing.

NP=Non Potable

P=Potable

SW=Solid Waste

Login Sample Receipt Check List

Client: Olin Corporation

Job Number: 360-22658-1

Login Number: 22658

List Source: TestAmerica Westfield

Creator: Rinard, Kimberley A

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	2.8 C / 4.8 C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TestAmerica Laboratories, Inc.

Chain of Custody Form

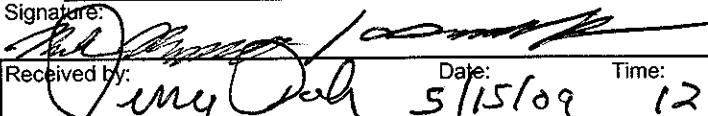
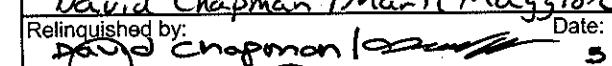
TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

• 53 Southampton Road
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(F) 413-572-3707

• 149 Rangeway Road
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(P) 978-667-1400
(F) 978-667-7871

366-22658

Client: Olin Chemical/MACTEC			Project #: 6100709001S			Job#	Quote#	PO#			
Address: 51 Eames Street Wilmington, MA 01887			Project Manager: Peter Thompson Work ID: PGMR Slurry wall/Cap			Shaded areas for office use					
Phone: Fax:			Contact: David Chapman			Comments (Special Instructions)					
Requested Turn Around Time			Regulatory Classification / Special Report Format								
10 Business Day (Std) <input checked="" type="checkbox"/>	Rush TAT Requested:		NPDES _____	Drinking Water _____	DEP Form(s) _____	Analysis Requested Check analysis and specify method and analytes in comments section. For example: 500-series for drinking water 600-series for waste water 8000-series for haz/solid waste Use comments section to further define.					
15 Business Day _____	24 hrs _____	72 hrs _____	RCRA _____	MCP GW1/S1 _____	MWRA Smart Rpt _____						
Other _____	48 hrs _____	5 Day _____	Other _____	MCP QA/QC Rpt <input checked="" type="checkbox"/>	MCP QA/QC Rpt <input checked="" type="checkbox"/>						
Sample Type Codes WW-Wastewater DW-Drinking water SW-Surfacewater LW-Labwater GW-Groundwater A-Air S-Solid / Soil SL-Sludge O-Oil Z-Other			Date	Preservative							
Sample ID			Time Collected	Grab Comp	# Containers	Plastic(P) or Glass(G) NaHSO4/MeOH	HNO3 to pH <2 H2SO4 to pH <2 HCl to pH >2 NaOH to pH >12 None / 4°C	Ammonia-Nitrogen Chloride, Sulfate Specific Conductivity	Nitrate, Nitrite Groundwater metals Surfacewater metals Sediment: Al/Cr/Fe	Groundwater metals Surfacewater metals Sediment: Al/Cr/Fe	
QC - GW - 105			GW MAM 5-13-09 09:45	X	3 P	1 1	1 X X X X				
OC - GW - 26			GW DLC 5-13-09 09:35	X	3 P	1 1	1 X X X X				
QC - GW - 785			GW DLC 5-13-09 09:11:05	X	3 P	1 1	1 X X X X	Y			
OC - GW - 25			GW MAM 5-13-09 11:50	X	3 P	1 1	1 Y X X X	X			
OC - PZ - 181R			GW MAM 5-13-09 13:05	X	3 P	1 1	1 X X X X	X			
OC - GW - 39			GW DLC 5-13-09 13:05	X	3 P	1 1	1 Y X X X	X			
OC - GW - 341SR			GW MAM 5-13-09 14:30	X	3 P	1 1	1 X X X X	X			
OC - GW - 341D			GW DLC 5-13-09 14:35	X	3 P	1 1	1 Y X X X	X			
OC - GW - 341DDup			GW DLC 5-13-09 14:35	Y	3 P	1 1	1 Y X X X	X			
OC - GW - 341MS			GW DLC 5-13-09 14:35	X	3 P	1 1	1 Y X X X	Y			
Sampled by (print): David Chapman / Marki Maggio			Signature: 						Cooler? <input checked="" type="checkbox"/> / N Samples Iced? <input checked="" type="checkbox"/> / N		
Relinquished by:  Date: 5-15-09 Time: 14:00			Received by: Jerry Oak Date: 5/15/09 Time: 1245						Temp @ receipt: 23.6 / 4.8 °C		
Relinquished by:  Date: 5/15/09 Time: 1645			Received by:  Date: 5/15/09 Time: 1645						Preservation/pH checked By:  Date: 5/15/09		
Method of shipment:			TestAmerica-Westfield								

TestAmerica Laboratories, Inc.
Chain of Custody Form

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

• 53 Southampton Road
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 (F) 413-572-3707

• 149 Rangeway Road
 N. Billerica, MA 01862
 (P) 978-667-1400
 (F) 978-667-7871

360-22658

Client: Olin Chemical/MACTEC			Project #: <u>61007 090014</u>										Job#	Quote#	PO#						
Address: 51 Eames Street Wilmington, MA 01887			Project Manager: <u>Peter Thompson</u>										Shaded areas for office use								
Phone: _____ Fax: _____			Work ID: <u>MCP Slurry Wall Loop</u>																		
Requested Turn Around Time			Regulatory Classification / Special Report Format										Comments (Special Instructions)								
10 Business Day (Std) <input checked="" type="checkbox"/>	Rush TAT Requested:									NPDES _____ Drinking Water _____		DEP Form(s) _____		Analysis Requested Check analysis and specify method and analytes in comments section. For example: 500-series for drinking water 600-series for waste water 8000-series for haz/solid waste Use comments section to further define.							
15 Business Day <input type="checkbox"/>	24 hrs <input type="checkbox"/>	72 hrs <input type="checkbox"/>	Other <input type="checkbox"/>	48 hrs <input type="checkbox"/>	5 Day <input type="checkbox"/>	RCRA _____ MCP GW1/S1 _____		MWRA Smart Rpt _____		MCP QA/QC Rpt <input checked="" type="checkbox"/>											
Sample Type Codes WW-Wastewater DW-Drinking water SW-Surfacewater LW-Labwater GW-Groundwater A-Air S-Solid / Soil SL-Sludge O-Oil Z-Other																					
Sample ID	Sample Type	Sampler's Initials	Date	Grab	Comp.	# Containers	Preservative					Specific Conductivity	Nitrate, Nitrite	Groundwater metals	Surfacewater metals	Sediment: Al/Cr/Fe	Other	Other	Other	Other	Other
			Time Collected				Plastic(P) or Glass(G)	NaHSO4/MeOH	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH <2										
OC-GW-34MS10	GW	DLL	5-13-09 14:35	X	3 P	1	1			1 X	X	X	Y								
OC-GW-55 S	GW	MAM	5-14-09 09:50	X	3 P	1	1			1 X	X	Y	X								
OC-PZ-17RR	GW	MAM	5-14-09 11:05	Y	3 P	1	1			1 Y	Y	V	X								
OC-GW-CA1	GW	DLL	5-11-09 12:35	X	3 P	1	1			1 X	Y	V	X								
OC-GW-78S	GW	MAM	5-14-09 12:55	Y	3 P	1	1			1 X	X	Y	Y								
OC-GW-241	GW	DLL	5-14-09 11:05	Y	3 P	1	1			1 X	Y	Y	Y								
OC-PZ-16RR	GW	MAM	5-11-09 11:30	X	3 P	1	1			1 X	X	X	X								
OC-GW-2021	GW	DLL MAM	5-15-09 09:20	X	3 P	1	1			1 X	X	V	X								
OC-GW-202 S	GW	MAM DCC	5-15-09 09:05	Y	3 P	1	1			1 X	X	X	X								
OC-GW-79S	GW	DLL	5-15-09 10:35	Y	3 P	1	1			1 X	X	V	Y								
Sampled by (print):			Signature:										Cooler? <input checked="" type="checkbox"/> N Samples Iced? <input type="checkbox"/> / N Temp @ receipt: <u>23.4/4.8</u> °C Preservation/pH checked By: <u>Jerry</u> Date: <u>5/15/09</u>								
Relinquished by: <u>David Chapman / Marti Maggiore</u>			Date: <u>5-15-09</u>	Time: <u>14:00</u>	Received by: <u>Jerry</u>		Date: <u>5/15/09</u>	Time: <u>12:45</u>													
Relinquished by: <u>Jerry</u>			Date: <u>5/15/09</u>	Time: <u>16:15</u>	Received by: <u>Tal</u>		Date: <u>5/15/09</u>	Time: <u>16:15</u>													
Method of shipment:			TestAmerica-Westfield																		